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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,828	10/23/2003	Steven Paul Randall	K315.132.101	6336

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DICKE, BILLIG & CZAJA, P.L.L.C.  
FIFTH STREET TOWERS  
100 SOUTH FIFTH STREET, SUITE 2250  
MINNEAPOLIS, MN 55402

EXAMINER
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HO, HA DINH

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/691,828	<b>Applicant(s)</b> RANDALL, STEVEN PAUL	
	<b>Examiner</b> Ha D. Ho	<b>Art Unit</b> 3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 7-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/23/03</u> | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This is the first Office Action on the merits of Application No. 10/691,828 filed on 10/23/03. Claims 1-23 are currently pending.

#### ***Election/Restrictions***

2. Applicant's election with traverse of the invention of group I (claims 1-6 and 21-23) and Species I in the reply filed on 04/07/05 is acknowledged. The traversal is on the ground(s) that claims 1-6 and 21-23 are not restrictable to different species. This is found persuasive and the species election requirement is therefore withdrawn. No traversal is made regarding restriction to inventions.
3. The requirement regarding restriction to inventions is still deemed proper and is therefore made FINAL.
4. Claims 7-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 04/07/05.

#### ***Drawings***

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed "mechanical brake" in claim 21, "a third electrical machine" in claim 22, "a sensor" in claim 23, "means for

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monitoring” in claim 23, and “means for extracting power” in claim 23, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

7. Claims 22 and 23 are objected to because of the following informalities:

- Claim 22, line 9, “the said” should be changed to --said--.
- Claim 23, line 9, “the said” should be changed to --said--.
- Claim 23, line 10, “the said” should be changed to --said--.

Appropriate correction is required.

*Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 2, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Bowen (US 6,371,878).

Regarding claims 1 and 21, Bowen shows an electro-mechanical transmission system, comprising at least two compounded epicyclic gearsets (20, 30), one gear element (planet gear) of the first gearset (20) being connected to an input shaft (44) which is connected to a prime mover (12), and one gear element (planet gear) of the second gearset (30) being connected to an output shaft (46), rotors of two electric machines being connected to respective gear elements (22, 36) of the first and second gearsets, electrical connections of stators of the machines being connected together via a controller (60) arranged to control flow of electrical power between the machines and an energy receiver (62), the controller being operable to direct at least a proportion of electrical power from one of the machines operating as a generator to the energy receiver to increase the torque applied to the output shaft (see col. 3, lines 14-31), and a mechanical brake (18) arranged to brake the electrical machine (40).

Regarding claim 2, the electrical power from the machine operating as a generator is diverted from the other machine to the energy receiver (see col. 3, lines 14-31).

Regarding claim 22, Bowen shows an electro-mechanical transmission system, comprising at least two compounded epicyclic gearsets (30, 56), having an input shaft (44)

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adapted to be driven by a prime mover (12) and connected to one gear element (sun gear) of the first gearset (30), an output shaft (the axle shaft that drives the wheel 52) which, in use, provide output torque and is connected to one gear element (planet gear) of the second gearset (56), two electrical machines (42, 58), rotors of which are connected to respective gear elements (ring, sun) of the first and second gearsets (30, 56) and each of which is able to operate either as a motor or a generator, and stators of which are connected together via a controller (60) arranged to control flow of electrical power between the machines, and a third electrical machine (40), which is operable as a motor and whose output shaft (the shaft that is connected to the sun gear 22) is connected to the input shaft (44) and which is connected to at least one of the two electrical machines (42, 58) to be electrically powered thereby.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowen (US 6,371,878) in view of Anthony et al (US 6,405,818).

For the purpose of applying art to claims 3, 4 and 6, the claimed energy receiver recited in claim 1 is interpreted as the carrier (34).

Bowen does not show the limitations recited in claims 3, 4 and 6.

Anthony et al disclose a hybrid electric vehicle including a motor/generator (16) and a motor (18), and a controller (44), wherein the controller is operable to compare a signal indicative of demanded torque with a predetermined threshold ( $T_{gen\ assist}$ ) and to direct the proportion of electrical power to the energy receiver (the element that is connected to the wheels via an output shaft) when the signal exceeds the predetermined threshold (see col. 5, lines 11-16), and wherein the controller is operable to compare a signal indicative of the speed of the output shaft (i.e., vehicle speed) with a predetermined threshold (above zero) and to direct the proportion of electrical power to the energy receiver (the element that is connected to the wheels via an output shaft) when the signal is below the predetermined threshold (see col. 5, line 65 to col. 6, line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the controller of Bowen to be operable as the controller of Anthony et al in order to provide a limited operation strategy which allows the vehicle to be drivable if on or more faults is present (see abstract).

Regarding claim 6, Anthony et al show a transition to directing the proportion of electrical power being governed by a control process (i.e., the operational mode 72) including proportional-plus-integral action (86).

#### ***Allowable Subject Matter***

12. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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13. Claim 23 is allowed.

***Cited Prior Art***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Tumback'508, Takaoka et al.'683, and Takeda'104 which each shows a hybrid vehicle including two electric motor/generator, and at least one planetary gear unit.

***Communication***

15. Submission of your response by facsimile transmission is encouraged. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P. 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to  
the Patent and Trademark Office on \_\_\_\_\_

(Date)

Typed or printed name of person signing this certificate:

\_\_\_\_\_  
(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the



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processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha D. Ho whose telephone number is **571-272-7091**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on **571-272-7095**.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HDH  
(571) 272-7091  
May 25, 2005

*Ha Ho*  
**HAHO**  
**PRIMARY EXAMINER**  
Art Unit 3681

*5/25/05*